

OLEFIN POLYMERIZATION CATALYSTS DERIVED FROM GROUP-15
CATIONIC COMPOUNDS AND PROCESSES USING THEM

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ABSTRACT

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Fluorinated amine compounds, $R'_iArF-ER_2$, where ArF is a fluoroaryl substituent, E is nitrogen or phosphorous, each R is independently a C₁-C₂₀ hydrocarbyl substituent, or the two R's may be connected to form an unsubstituted or substituted C₂-C₂₀ cycloaliphatic substituent, R' is a C₁-C₂₀ hydrocarbyl or halogenated hydrocarbyl, and i is 0, 1 or 2 are disclosed. These compounds may be protonated and complexed with suitable substantially noncoordinating anions to prepare polymerization catalyst components. When these catalyst components are combined with organometallic catalyst precursors, the catalyst precursor is activated to a catalyst. This catalyst is combined with monomer under olefin polymerization conditions to prepare polymer. High number-average molecular weight polymers at high productivity rates were observed from using metallocene catalysts activated with [N-pentafluorophenyl pyrrolidinium] [tetrakis(pentafluorophenyl) borate].

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